

PHOSPHOR BASED LIGHT SOURCES UTILIZING TOTAL INTERNAL REFLECTION

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ABSTRACT

A LED package including an LED that emits excitation light at an excitation light wavelength and a layer of phosphor material positioned to receive the excitation light and having a first index of refraction at the excitation light wavelength. The phosphor material emits visible light at a visible light wavelength when illuminated with the excitation light. An interference reflector is positioned adjacent to the layer of phosphor material and a TIR promoting layer is in contact with the layer of phosphor material. The TIR promoting layer has a second index of refraction at the excitation light wavelength that is less than the first index of refraction at the excitation light wavelength.

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